



Brunswick Pike, at Baker's Basin

**The Highwayman Is Out
For More and Better Roads
in New Jersey**

**May, 1922
Vol. I
No. 10**

Good Roads

What Do They Mean in Your Young Life?

The term "good roads" is an old term, but it has taken on a new meaning. With the advent of the *railroads*, it looked for a time as tho the other roads would become of secondary importance—that their work would be confined to "feeding" the railroads.

All that has changed. The advent of modern motor transportation, and with it, the development of the permanent, always travelable, hard-surfaced highway, has again made **ROADS** of prime importance. It is not exaggerating to say that at present we could get along better without our railroads than without our modern "good roads" systems;—though, of course, we need them *both*.

Put in a nut-shell, there are just two big reasons why good roads are so all-important:

The first is, that the only thing in the world which is absolutely limited is *TIME*.

The second is, that *good roads* are the greatest savers of *TIME* that man has ever invented.

That is where they hit **YOU**.

Your production, your income, your pleasures, your achievements are all measured and limited by *TIME*.

Just stop a moment and figure up the amount of time that you spend—*waste*—in getting from place to place.

Then the overwhelming importance of *good roads* becomes self apparent.

Be a booster for "good roads."

Make yourself familiar with what *good roads* really are.

Invest some of your *intelligence*, as well as your money (through taxes) in good roads—they are the greatest dividend payers the world has ever known.

The Highwayman



BEFORE (June 29,) 1921—and—**AFTER** (May 11,) 1922

Not only on the "open roads", but also in towns and cities, have there been deplorable road conditions to remedy.
(Route 4—Section 5; Red Bank-Etontown)

The Highwayman

The Highwayman

Published Monthly By The
State Highway Department, at Trenton, N. J.

The HIGHWAYMAN will be sent free upon application
to any citizen of New Jersey who is interested in
"More and Better Roads For New Jersey!"

THE HIGHWAYMAN

H. C. SHINN, *Editor in Chief*

Associate Editors

A. LEE GROVER R. B. GAGE
C. F. BEDWELL EDWARD E. REED
CHAS. FISHBERG

Managing Editor

F. F. ROCKWELL

State Highway Commission

Governor EDWARD I. EDWARDS, *Ex Officio*

Hon. GEO. L. BURTON, Chairman	- - - - -	South River
JOHN FERRIS	- - - - -	Jersey City
GEORGE PADDOCK	- - - - -	Newark
WALTER F. WHITTEMORE	- - - - -	Newton
THOMAS E. COLLINS	- - - - -	Elizabeth
ALBERT S. L. DOUGHTY	- - - - -	Mt. Holly
CHAS. F. SEABROOK	- - - - -	Bridgeton
CHAS. V. DUFFY	- - - - -	Paterson

State Highway Association

President	- - - - -	A. W. MUIR
1st Vice President	- - - - -	W. A. JOHNSON, <i>Laboratory</i>
2nd Vice President	- - - - -	J. L. VOGEL, <i>Bridge Division</i>
3rd Vice Pres.	- - - - -	WILLARD EMMONS, <i>Equipment Div.</i>
4th Vice President	- - - - -	G. R. MOORE, <i>Right of Way</i>
5th Vice President	- - - - -	WM. J. MCGOVERN, <i>State Labor</i>
6th Vice President	- - - - -	H. D. ROBBINS, <i>Construction</i>
Executive Secretary	- - - - -	EDWARD W. O'BRIEN

Vandals of the Road

We have noticed that some of the warning signals placed along the State Highway System, and showing an intermittent flashing light, automatically controlled, have been intentionally broken.

Presumably the work of boys. And yet it is hard to conceive of the boy—even the "bad" boy who likes to "show off" to his companions—who would do damage of this kind if he gave a moment's thought to the result.

The destruction of one of these signals may easily be the direct cause of a serious accident—even death.

Wherever and whenever you come in contact with boys, teach them to have respect for the State's property.

And why not suggest to your local Boy Scouts that one of the good things they can do is to watch these warning signals, and report, with all the information they can get, any injury to them.



NOTE

Supplement for May Omitted

Due to the spring season's pressure of road work in this office, it has been necessary to postpone the issuing of the next "Road-builder's Supplement" until next month. At that time, the following papers, with the discussions upon them, will be published: "Highways", by Hon. James H. MacDonald, Former State Highway Commissioner of Connecticut; and also "Precautions Necessary for the Proper Application of Glutrin to Gravel Roads", by Maurice R. Young, Contractor.



Bill Wildblood

Purchase Clerk of the Department

"I am willing to buy it if—"

"Bill"—who was christened Robert William, though nobody ever calls him that now—was also born in Trenton, in 1896.

His first work in life was testing rubber—which was better in those days than it is now. After attending the Trenton Public Schools, and later taking a Secretarial Course in Rider College, Bill again took up the rubber business, but only for a short time.

In the fall of 1913, he accepted a position with the Department of Conservation and Development (then known as the Geological Survey) and was assigned to the Laboratory. In connection with the Laboratory work Bill earned the distinction of being one of the first men to act as Material Inspector for the Highway Department.

In the fall of 1917 Bill was transferred to the Main Office of the Department in the capacity of Clerk-Stenographer. In 1918 he served with the 7th Engineers Training Regiment at Camp A. A. Humphreys, Virginia.

In the spring of 1919 Bill was appointed to the position of Assistant Business Agent which he retained until the position was abolished in the fall of 1920 at which time he was made Purchase Clerk.

This photograph of Bill was snapped during the New Jersey State Highway Convention and by the expression on Bill's face, we don't know whether he had his mind strictly on business, but from past experience we judge he was getting ready to say, "I am willing to buy it, if you get the Chief's O. K."



Chinese Moving Graves for Road Builders

It may have been difficult in earlier years to get graves removed in China and doubtless is so today as regards certain graves, but in this respect as in others the conditions of China have materially changed within recent years. For instance, the road from Hantan to Tamingfu has only three curves in 47 miles, and the last 27 miles are without a curve. It would not be possible to run such a road anywhere in the great plains of China without striking many graves. Yet the road was built without any trouble or delay. In Shantung, while the roads were being built, the standard rate of \$2, Mexican, was established as payment for a grave. The owner moved it and in this Province no delays were encountered on account of the graves.—*Highway News Digest*.



County Engineers Please Note

The columns of the HIGHWAYMAN are open to you and we cordially invite you to write up the job or jobs in which you are particularly interested, either supplying the necessary photographs or advising the Department that you would like to have us take photographs of your work to accompany your article.

The reimbursement construction work will offer opportunity for some excellent articles.



Norman C. Applegate

Supervisor of Equipment, State Highway Dept.

Norman C. Applegate, better known as "Norm."

With the exception of eighteen months which he spent with the A. E. F., in the 303rd Engineers, Norm has been with the Highway Department since 1913—consecutively as Foreman, Superintendent of Construction, and Supervisor of Equipment.

Like several other of the boys, Norm is a Trentonite by birth. He became a resident here in 1889, and has remained ever since.

He attended Trenton Public Schools and Carnegie Institute and received his degree in Civil Engineering with the Class of 1908 at the latter institution.

He was connected with the Trenton Iron Company as Engineer-Draftsman, and with the Eastburn Company as Superintendent of Construction on several jobs in New York, New Jersey, and Pennsylvania, for five years previous to entering the employ of the State.

The photograph above was taken after Art Bullock and Harry Shinn had tried to convince him that an automobile jack would not work. You can readily see what sort of an argument Norman thought they were putting up. This is the same type of smile that greets all officials when they try to put something over on Norm.



Spring Inspection Trip N. J. Association of County Engineers

The New Jersey Association of County Engineers will hold its Spring Inspection Trip on June 16th and 17th. The Association consisting of various County Engineers and their Assistants, will examine the methods of construction and materials used in the various counties and state road and bridge jobs, particularly in the Counties of Essex, Hudson, Bergen, Passaic, Morris, Warren, Hunterdon and Mercer.

Considerable interest is being taken in this inspection trip as the relative merits of different types of road pavements are now being keenly discussed.

The Members of the State Highway Commission and State Highway Engineer Wasser will be on the trip, and will discuss with the County Engineers the various types of improvements.

The Boards of Freeholders are requesting their engineers to make the trip as the examination of the different types of roads in the several counties, and the resulting discussion at the County Engineers' meeting, will tend to give new and broader ideas to each engineer.

The Engineers' meeting will be held on the evening of June 16th in the Karlton Hotel at Easton, Pa. The various standing committees on specifications, bridges, etc., have promised to submit interesting and instructive reports.

The Engineers will visit several of the cement mills in and around Easton, where the methods of manufacture and the merits of the different kinds of cement will be pointed out.

The party will assemble at the Robert Treat Hotel in Newark on June 16th, at 10.00 A. M. Daylight Saving

NEW JERSEY STATE HIGHWAY DEPARTMENT

March 1st, 1922

Executive

HON. EDWARD I. EDWARDS, Governor

*The State Highway Commission
and*

THOMAS J. WASSER, State Highway Engineer

ADMINISTRATION

A. LEE GROVER, Secretary and Chief Clerk

M. L. HOWELL - - Chief Auditor and Accountant

CHAS. FISHBERG - - - Assistant Chief Clerk

MISS GRACE WILLIAMSON - - - Chief File Clerk

R. W. WILDBLOOD - - - Purchase Clerk

CONSTRUCTION DIVISION

C. F. BEDWELL, Construction Engineer

G. R. MOORE, Ass't Construction Engineer

R. A. MEEKER - - - Right of Way Engineer

C. A. MEAD - - - Bridge Engineer

THOMAS GEORGE - - - Acting Supt. of State Labor

C. A. BURN - - - Northern Division Engineer

H. D. ROBBINS - - - Central Division Engineer

J. A. WILLIAMS - - - Southern Division Engineer

MAINTENANCE, EQUIPMENT AND PROJECTS DIVISION

EDWARD E. REED, Assistant State Highway Engineer

A. W. MUIR - - - Superintendent of Maintenance

JACOB HAGIN - Superintendent of Plant and Equipment

N. C. APPLEGATE - - - Supervisor of Equipment

A. D. BULLOCK - - - Projects Engineer

H. C. SHINN - - - Engineer of Special Assignments

TESTING LABORATORY

R. B. GAGE, Chemical Engineer

J. G. BRAGG - - - Senior Testing Engineer

F. H. BAUMANN - - - Senior Testing Chemist

Time. A detailed itinerary is now being prepared and will be sent out later.

The officers of the Association are:

HARRY F. HARRIS, County Engineer of Mercer, President

FRANK J. RADIGAN, Acting County Engineer of Hudson, Secretary.

ROSCOE P. MCCLAVE, County Engineer of Bergen, Vice President.

GARWOOD FERGUSON, County Engineer of Passaic, Treasurer.



Memorandum for Next Issue of Highwayman

In order that the HIGHWAYMAN may be ready for distribution by the first of each month, it has been decided to have bulk matter ready for the printer a month and ten days previous to publication date, and all photographs should be ready for the printer approximately a month and one-half in advance of the date of issue, that means that the photographs for the June Issue should be submitted to the Editor-in-Chief not later than the 12th of April and reading matter not later than the 20th of April.

In the handling of monthly publications where cuts and intricate arrangement are necessary, the matter for publication is required sometimes three months in advance of the date of publication, so the HIGHWAYMAN is not requiring an excessive amount of time for the submission of matter for its publication.

Contract News

Roads to Be Built and Who Will Build Them

Prepared to April 19, 1922

Every user of roads is interested in where new roads are to go, and in their construction. If you are near one of these jobs, take the time to go and watch the road-builders at work—you'll find it time well spent.

Feb. 6, Route No. 6, Section No. 5, Shirley-Oldman's Creek, Concrete Paving Job, 6.812 miles, 20 feet wide with gravel shoulders, was awarded to the Benjamin Foster Company, Philadelphia, Pennsylvania, on his low bid of \$254,021.53.

Feb. 15—Route No. 6, Section No. 6, Old Man's Creek-Mullica Hill, Reinforced Concrete Paving Job, 5.028 miles, 20 feet wide with gravel shoulders, was awarded to the firm of M. Staub, Swedesboro, New Jersey, on his low bid of \$203,660.48.

Feb. 14—Route No. 2, Section No. 3, South Broad St., Storm Drain job was awarded to A. G. Thompson, of Trenton, New Jersey, on his low bid of \$17,665.06.

March 6—Route No. 6, Section No. 10, Quinton to Marlboro, Grading and Gravelling job, 5.994 miles, 20 feet wide, was awarded to the Masterson Construction Corporation, New York City, on their low bid of \$79,793.17.

March 6—Route No. 6, Section No. 11, Salem to Quinton, Reinforced Concrete Paving Job, 2.648 miles, 20 feet wide with gravel shoulders was awarded to Joseph F. Burke, of Plainfield, New Jersey, on his low bid of \$117,833.79.

Feb. 27—Route 10, Section 1-B, Arcadian Way to Fort Lee Ferry, Reinforced Concrete Paving Job, 0.48 miles, 20 and 30 feet wide with earth shoulders, was awarded to the firm of John J. McGarry, Edgewater, New Jersey, on his low bid of \$104,362.61.

Feb. 21—Route 14, Section 5, Cape May Court House to Swainton, Concrete Paving Job, 2.987 miles, 20 feet wide with gravel shoulders, was awarded to the firm of Sutton and Corson, Ocean City, New Jersey, on their low bid of \$118,776.16.

March 8—Route 4, Section 9, Smithville-Mullica River, Warrenite Bithulithic Job, 3.748 miles, thirty feet wide, with gravel shoulders was awarded to C. H. Earle of Hackensack, New Jersey, on his low bid of \$374,533.77.

March 8—Route 4, Section 6, Eatontown-West Long Branch, Sheet Asphalt Job, 2.69 miles, 20 feet with earth shoulders was awarded to the Utility Construction Co. of New Brunswick, New Jersey, on their low bid of \$149,679.74.

Jan. 1—Route 6, Section 8, Pearl St., Bridgeton, Concrete Paving Job, 0.455 miles, 20 and 30 feet wide with gravel shoulders was awarded to the Tri-State Construction Company, Bridgeton, New Jersey, on their low bid of \$76,302.36.

April 5—Route 4, Section 10, Shadow Lawn-Roseld Ave. Sheet Asphalt Paving Job, 2.41 miles, 20 and 36 feet wide with earth shoulders, was awarded to Newark Paving Company of Newark, New Jersey, on their low bid of \$104,969.51.

April 4—Route 2, Section 3, South Broad Street, Sheet Asphalt Job, 0.648 miles, 48.5 feet wide, was awarded to J. J. Barrett, Trenton, New Jersey, on his low bid of \$69,433.77.

March 1—Route 11, Section 1, Main Street, Passaic, Sheet Asphalt Job, 0.257 miles, 40 feet wide, was awarded to Union Building Construction Company, Passaic, New Jersey, on their low bid of \$15,160.15.

April 5—Route 4, Section 12, Sea Girt Avenue, Concrete Paving Job, 0.162 miles, 20 feet wide with earth shoulders, was awarded to T. H. Riddle, New Brunswick, New Jersey, on his low bid of \$8,569.23.

April 4—Route 9, Section 6, Somerville-Bound Brook, Concrete Paving Job, 2.491 miles, 20 feet wide, earth

shoulders, was awarded to Salmon Brothers, Netcong, New Jersey, on their low bid of \$131,710.10.

March 31—Route 4, Section 5-A, Storm Drain in Red Bank was awarded to Chas. J. Romano, Montclair, New Jersey, on his low bid of \$15,314.85.

April 10—Route 6, Section 9, Salem-Collier's Run, Concrete Paving Job, 4.752 miles, 20 feet wide with gravel shoulders was awarded to Sampson & Reuter, Elizabeth, New Jersey, on their low bid of \$196,975.08.

April 18—Route 9, Section 5, Union Avenue, Bound Brook, Sheet Asphalt Job, 1.501 miles, 20 feet wide with earth shoulders was awarded to the Utility Construction Company of New Brunswick, New Jersey, on their low bid of \$93,090.31.

April 10—Route 3, Section 8, Camden-Clements Bridge Road, Concrete Paving Job, 3.82 miles, 36 and 40 feet with earth shoulders was awarded to W. Penn Corson, Ocean City, N. J., on his low bid of \$248,532.24.

April 10—Route 3, Section 9, Clements Bridge Road-Kirkwood, Concrete Paving Job, 3.756 miles, 29 feet wide with earth shoulders was awarded to John M. Kelley Construction Co., Camden, N. J., on their low bid of \$200,592.95.

April 10—Route 3, Section 10, Kirkwood-Berlin, Concrete Paving Job, 5.576 miles, 29 feet wide with earth shoulders, was awarded to John M. Kelley Construction Co., Camden, N. J., on their low bid of \$297,993.89.

April 14—Route 5, Section 5, Madison Ave., Morris Twp. & Borough of Madison, W. B. on Concrete base, 2.032 miles, 20 feet wide with earth shoulders, was awarded to the Northern Construction Company of Newark, New Jersey, on their low bid of \$117,444.37.

April 13—Route 15, Sections 2 and 3, Bridgeton-Millville, W. B. on Concrete Base, 8.00 miles, 20 feet wide with gravel shoulders, was awarded to the Tri-State Construction Company of Bridgeton, New Jersey, on their low bid of \$455,500.12.

April 14—Route 4, Section 14, Laurelton-Lakewood, 3.875 miles, Concrete Paving Job, 20 feet wide with gravel shoulders, was awarded to C. H. Earle of Hackensack, New Jersey on his low bid of \$144,705.68.



Politicians Versus Frogs

When the Lee Highway delegation called on Governor Trinkle recently there was no second governor present to end the speech making by saying: "It's a long time between—".

However, Henry Roberts, of Bristol, member of the delegation, told the governor a frog story.

"There was a farmer," said Mr. Roberts, "who dropped into a hotel and found that the landlord was paying what seemed an enormous price for frogs. The farmer was interested and in response to his inquiries was told that the high prices were paid because of the scarcity of frogs. 'Why,' said the farmer, 'there are a million frogs on my farm.'"

"Bring them in," said the landlord, "and I will pay the price."

"So the farmer went back home, abandoned his crops and sent the boys and hands out to catch frogs. At the end of two days they had captured a dozen. These the farmer took to town and sold them to the hotel. As he was leaving the landlord said:

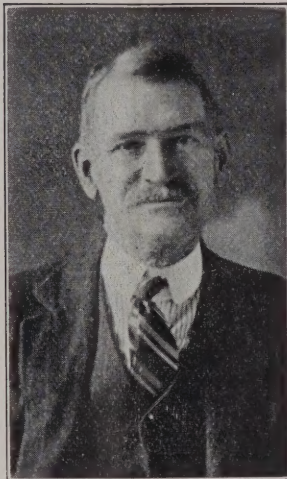
"You told me you had a million frogs on your place."

"I know I did," said the farmer, "but I was judging by the noise they made."

Mr. Roberts added that the opponents of the highway department had raised a big clamor, but that on the "show-down" they had been found lacking in numbers.

—Highway News Digest.

"Jack" Edwards Held Up By Highwaymen!



J. T. EDWARDS
Still Smiling
in Spite of that Hold Up

Big Blow-Out But No Fatalities

The *Jersey Journal* prints the following account of blow-out given to Jack Edwards, Maintenance Supervisor of the Central Division.

"John T. Edwards, brother of Governor Edward I. Edwards, was 'held up' last night on a lonely road between Cliffwood and Red Bank, N. J., by 'highwaymen' and was escorted to Stillwagon's Hotel, where he was entertained. The 'hold-up' men represented the employes of the Central Division of the State Highway Department. The event was in honor of the return of Supervisor Edwards from a vacation spent in Florida.

"The arrangements for the event were in charge of Assistant Superintendent of Motor Vehicles, J. J. Tyman, Foreman William Hunt and Auditor A. J. Amison and Assistant Secretary to Governor Edwards A. J. Dwyer. It was a complete surprise to Mr. Edwards, who was escorted to the banquet hall and seated at the head of the table, flanked on either side by Assistant Superintendent of Maintenance Woodruff and Frank P. Jones of Hoboken, who was speaker of the evening. Alfred Kerr of Hoboken of the Maintenance Division was master of ceremonies.

"At the conclusion of the supper the evening was spent in discussing good roads, good work, and good supervision.

"Mr. Jones went into the construction of the old Roman roads of England, the mecadam roads of Germany and others of which he said have been laid for upwards of 2,000 years and were still in service. The speaker referred to the apparent unity of feeling among the employes in working for one aim, namely, better roads. Mr. Jones received hearty applause at the conclusion of his remarks.

"Assistant Superintendent Woodruff spoke of 'Concrete Joins'. He referred to himself as being a 'concrete joint' at the supper, have been called upon as a 'filler in' owing to the absence of Superintendent A. W. Muir, who was in conference with State Highway Engineer Wasser, in Trenton. Mr. Woodruff's remarks caused much laughter and won applause. He passed jokes on all present.

"Superintendent Edwards said: 'This is indeed a surprise—an agreeable one. I am in favor of such gatherings, especially if told about it previously. I could have been invited instead of being 'Held Up' on the highway by 'highwaymen.'

"As you know I want good roads and I am going to have them if you work with me as you have in the past. I am proud of the roads under my supervision. We must work together and for the aims laid down by State Highway Engineer, Thomas J. Wasser. He is the greatest road builder and organizer in the State. I won't stand for any employe laying down on the job. He must do his work or quit.

"Mr. Edwards spoke at length on road work in this and other States. He said that the roads of New Jersey would be 100 per cent efficient before fall.

"Other speakers were Assistant Secretary Dwyer, Auditor McGowan, Assistant Superintendent J. J. Tyman, Charles Hurley, William Hunt.

"Before the session adjourned Supervisor Edwards invited the guests to his summer home at Manasquan, N. J. for a supper, sometime in early June."

The *Hudson Observer* also makes mention of Jack's party in the following language.

"Supervisor John T. Edwards, of Jersey City, of the New Jersey State Highway Department, was the guest of honor at a dinner Monday night at Stillwagon's Hotel, Cliffwood, N. J. The event was given by the Central Division, N. J. S. H. D., in honor of the Supervisor's return from his vacation which, with Mrs. Edwards was spent in Florida.

"During the evening Mr. Edwards spoke on good roads and how to maintain them properly. He referred to State Highway Engineer Thomas J. Wasser, as the greatest road builder New Jersey ever had the honor to secure.

"The greatest asset the State owns today is good roads. Without good roads, the avenues of traffic are absurd. The farmer who some time ago was forced to take his produce to market with a team and farm wagon, can now be seen speeding to his point of disposal in big trucks. We see motor vehicles in competition with the railroads. Without the roads as they are, such conditions could not come to pass.

"It is true that several of the roads in New Jersey were not built for heavy traffic. They were constructed years before motor trucks were thought of. Built, I may say, in Colonial days, when a horse-drawn vehicle was the only means of travel.

"We are gradually overcoming these conditions and before fall I am sure not one of the thousands of visitors who take advantage of our highway systems will have cause of complaint. Route No. 1, from Elizabeth to Camden, cannot be equalled for the length of miles in any state. Other routes are equally as good.

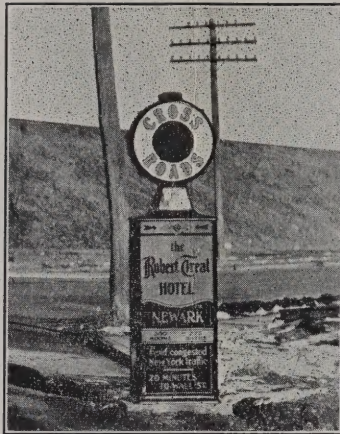
"Because I praise the roads of our State, I don't mean that you men must lay down on your work. They must be maintained and I shall insist that you keep on doing your part and maintain them. Should any of you desire assistance in the work laid down for you do not hesitate to call upon me. In order to maintain the work properly we must work together.

"Other addresses were made by Assistant Superintendent of Maintenance Woodruff; Assistant Superintendent of Motor Vehicles, J. J. Tyman; Assistant Secretary to Governor Edwards, A. J. Dwyer; Auditor Charles Hurley and Frank McGowan. Alfred Kerr, maintenance division was master of ceremonies. Representatives from each of the twenty one New Jersey counties were present."

These newspaper clippings were the first intimation we had of the affair and editorially we wish to make the same comment as we saw inscribed upon an automobile tire repair shop:—

"Why not invite us to your blow-out?"

The Highwayman



Signs like this give the visiting motorist information as well as a "warning."

Warning Signals as an Aid to Motorists

New Road Helps that Are Doing Much to Eliminate the Dangers of Driving

We are all rapidly becoming familiar with the "Lighthouses" being placed along the New Jersey State Highway System and the subject of warning signals is, no doubt, of interest to a great many people.

A. The New Jersey State Highway Commission appreciates the importance of a State and National Signal system which shall "speak a common language."

B. With improved highway construction, increased volume of night traffic, limited headlight candle power, and the legal necessity for deflecting lens, an illuminated system of signals is required. A flashing light for use as a warning is desirable not only for reasons of economy, but primarily because such a signal is readily differentiated from any other form of illumination, and because the flashing light has a psychological affect—a positive attraction—which cannot be accomplished with any steady light.

Psychologists have repeatedly proven, that after a few seconds the human brain will not retain a distinct picture of any object thrown upon it by the eye. It is for this reason that we wink in order to give the brain a rest to reproduce a fresh image which will be distinct. The Flashing Light accomplishes this automatically without mental effort as contrasted with the diminishing effectiveness of the steady light.

C. The Standards Committee of the American Association of State Highway Officials has recommended to the various Highway Commissions a color standard which system has been adopted by the New Jersey Commission.

D. The American Gas Accumulator Company which has for more than fifteen years been developing an unwatched acetylene lighting system for marine service, has supplied this marine apparatus which is used on all of the Panama Canal lights and on 85 per cent of the marine lights now purchased all over the world. The AGA company after consulting with a number of State Highway Officials and the Executive Committee of the American Association

of State Highway Officials, has designed "Highway Lighthouses", which are sturdy of construction, economical of operation, and are applicable to every highway danger. They are entirely effective as a day warning, and have a flashing colored beam of light, which has a remarkable "wallop" at night. On a clear night this light can be discerned for a distance of approximately five miles. The color of the light tells the motorist the distance and the nature of the danger ahead. In addition to this as a motorist approaches within one hundred yards of the lighthouse, the illuminated wording of the lighthouse definitely describes the danger. Where a red lens is used, this illuminated wording reads "Danger Railroad", "Danger Bridge," or "Danger Stop." Where a yellow lens is used, an illuminated wording is shown with "Caution Grade" or "Caution Curve", with an illuminated dart showing whether the curve breaks to the right or left and whether it is a simple or reverse.

Where there is no fixed danger ahead, but merely a traffic intersection, a green lens is used with the illuminated wording "Cross Roads".

These Highway Lighthouses have a small pilot flame about as large as a head of a match, which burns continuously and which ignites the principle gas as supplied, which is about forty-five times per minute.

The Highway Lighthouse consumes less than two feet of gas per day if operating for a twenty-four hour period. It can readily be equipped with an AGA "Sunvalve" device which is used for the control of AGA marine lights, in which case the light will automatically be turned on at

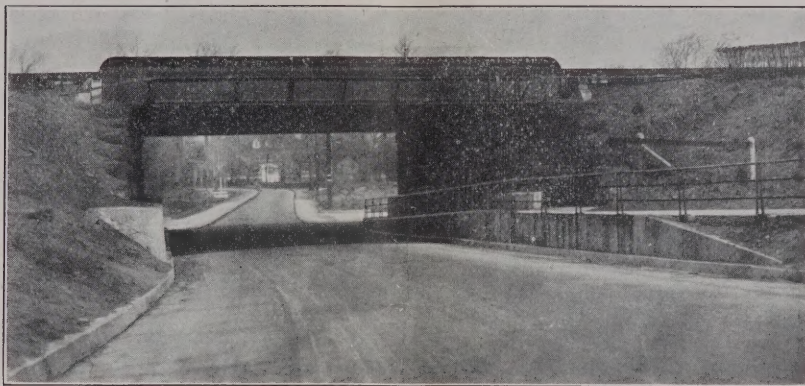
dusk, and off in the morning at sunrise.

The 'AGA' Sunvalve will illuminate the signal during the day in case of heavy fogs or storms.

E. In determining the source for financing a state wide and nation wide installation of highway lighthouses, and the resulting operating cost, it was apparent that one national organization could accomplish a uniformity in construction. *Continued, page 9*



Much more attractive than the ordinary "Bill-board", and makes possible a real public service.



No more "terrible accidents" when the deadly "crossing" has been eliminated.

The Elimination of Grade Crossings

By H. C. Shinn, Engineer of Special Assignments

Two very serious accidents which occurred recently in the vicinity of Lakewood just a few days ago at grade crossings of the Central Railroad of New Jersey, in the first of which the woman driver who was the only occupant of the closed car was instantly killed and the machine wrecked at the River Avenue grade crossing of Route No. 4 and just a few days later about a mile and one-half from this point on the Central Railroad of New Jersey, where the Lakewood-Farmingdale road crosses the railroad, an ice-cream truck was hit and the driver and one other man occupant was instantly killed, calls our attention to the serious problem presented by grade crossings.

In justice to the railroads, it is easy to see how difficult it would be for them to secure the necessary funds to eliminate all grade crossings, as it is not easy to secure funds for betterments that will pay some returns, in the form of interest. The probability of the railroads being able to secure increased passenger and freight rates in sufficient amounts to enable them to pay for the tremendous amount of money which would be necessary to use in the elimination of crossings is remote, so from their standpoint the likelihood of their being able to eliminate grade crossings is very slight. From the standpoint of the State Highway Department and the county and municipal governments engaged in road building the elimination of grade crossings presents an equally great difficulty.

In order to imagine the public opinion the Department would be confronted with, just visualize the case of the nearest grade crossing condition to you and try to estimate the large cost which would be necessary in order to eliminate it. If you react on the average way, you would probably say that the money that it would take to eliminate this crossing would build a considerable length of road and

that we need roads more than we need elimination of crossings. On the other hand, those people who have heard and seriously think about the grade crossing accidents in which lives have been lost will say that no amount of money would be too large in order to save the lives of the people who have to use these crossings.

Sometimes the Highway Department sees an opportunity to improve the alignment of the highway at the same time eliminating one or two dangerous grade crossings, at a cost, although high, which would be insignificant compared with what the cost would be in a generation from now or even a comparatively short span of years, and when measured by the loss of life of citizens well known in the community through grade crossing accidents would be considered small.

The chances are all in favor of the general public approving the re-alignment and elimination work a few years after it was done and saying that it was the only sensible course to take, but without considering all the conditions people are prone to condemn far sightedness in such matters at the time when the work is proposed or else bring pressure of public opinion to bear upon their public servants, the governing body, in an effort to prevent expenditure of State funds for such work, while as before stated the same people would without a doubt commend the action of the governing body in a very few years after the work has been performed.

The necessity for making decisions in cases of this kind is one of the duties of public officials and while they do not expect the average citizen to have and to take all of the facts into consideration in judging the action of the governing body because they do not have the time and they are not trained along these lines, but it would be a matter of great gratification to these said officials if the people in judging actions of their servants would first en-

(Continued on page 10)



This will give you some idea of the work required to "eliminate" a bad crossing—but is worth all it costs, many times over. (Route 6—entering Bridgeton, N. J.)

The Highwayman



Drills at work in the rock on Route 10 (Fort Lee Ferry) job

Blasting a Road in the Solid Rock

By Roy Mullins

Route 10 of the State Highway System extends from the Market Street Bridge over the Passaic River at Paterson through Hackensack to the 130th Street Ferry at Edgewater, a distance of about eleven miles. This route, the shortest of the entire State Highway System, presented the most varied and rugged construction conditions of the entire system. Section 1-A, which has recently been opened to traffic from the Ferry at Edgewater to the top of the Palisades, Section 1-B now under construction extends across the plateau on top of the Palisades, Section 2, leads down the west side of the high land to the Hackensack valley, and Section 3 carries the route across the Hackensack meadows. Thus within a distance of five and a half miles there occurs heavy rock cutting, working up the face of a cliff two hundred feet high, extensive earth fills working down the other side of the ridge, and fills across tide marshes with unstable bottom.

The work on Section 1-A was started in the early summer of 1919. The roadway as designed was thirty-four feet between curbs with an eight foot side walk on one side. The road has a maximum grade of $6\frac{1}{2}\%$, being 5% the greater part of the way and about 2% on the curves. This part of the road is literally blasted out of the face of the rock and the road is now flanked on one side by an almost vertical cliff over 100 feet high, and on the other side is supported by a retaining wall 50 feet high.

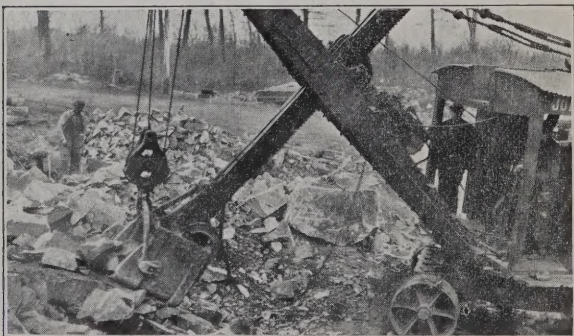
The rock excavation was accomplished by use of five jack hammers and five tripod drills operated by compressed air delivered through a 2 in. pipe line from a compressor plant at the foot of the hill. Horizontal holes up to 20 in. in depth were drilled close to the bottom of the excavation and loaded with dynamite which was exploded by electricity, so that the charges in several holes were blown up at the same time. The rock thus broken up was picked up by three steam shovels and loaded on to cars operated on a narrow gage track which extended nearly the entire length of the work with necessary sidings,

etc. The railroad equipment consisted of forty double truck dump cars holding three cubic yards each and four twelve ton locomotives. The larger pieces of rock were delivered to cable ways, three of which were in operation on the construction of the retaining walls. These cable ways were about three hundred feet in length and were capable of lifting stones weighing several tons and placing them anywhere in the wall. As the wall was constructed, the equipment was moved ahead.

The smaller and irregular fragments of stone were deposited in an embankment which forms the north loop of the road. A stone crushing outfit was installed consisting of two crushers, elevator, screens and segregating bins to crush stone for use in concrete, which it was intended to use as permanent. However, after about three thousand tons had been crushed it was determined that stone could be delivered from commercial plants to the job cheaper than it could be crushed at this plant. The excessive cost of crushing was due to the difficulty of getting coal up to the plant, the necessity of rehauling the stone from the plant to a storage pile and the interference with the progress of the steam shovels.

The excavation and construction of the walls and drainage system was carried on continuously over a period of nearly two years. The maximum force employed was 125 men and an average force of 50 men was at work all of the time. In spite of the fact that this large force of men was concentrated in narrow confines where dynamite was used by the ton, it is a remarkable fact that no lives were lost and no serious injuries suffered by the men or damage done to property.

The original contract included the excavation, drainage and walls as described and also a stone block pavement on a concrete base. However, as work progressed it became evident that the side hill fill would continue to settle for some time, and it would be inadvisable to build a solid pavement which would crack badly as the fill con-



Here's real work for a steam shovel! Taking up a dipper-ful of "coarse gravel". When the chunks are too big for the dipper, they are loaded as shown at the right

tinued to compact. For this reason the hard surface was eliminated from the original contract and a new contract let for the construction of a temporary bituminous macadam pavement which makes the road available for use and which can be maintained without difficulty until the fill has ceased to settle. This opens a new road from the Edgewater Ferry to Anderson Avenue, which is one of the main roads in this vicinity, and makes it no longer necessary to use the steep road leading to Fort Lee.

Section 1-B of this route now under construction will have a reinforced concrete pavement. This is a relocation of the route which has been adopted to divert heavy traffic from the high class residential section through which the route now runs.

Section No. 2, leading down to the Hackensack Valley, has been graded and contracts are to be awarded for the construction of the pavement and necessary bridges.

Section No. 3, leading across the meadows about two miles in length will probably be constructed during the present summer.



Highwayman Attends Officers Training School

Mr. E. R. Sherbaum of the State Labor Division, who was selected to attend the officers training camp of Artillery Officers at Fort Sill, Oklahoma, has now resumed his duties with the State Labor Division. Mr. Sherbaum attained a very high record in his class and received a commission as Captain of Field Artillery in the Officers Reserve Corps.



Under conditions like these, the operator has no cinch—but we found this one smiling!

Warning Signals as an Aid to Motorists

(Continued from page 6)

struction and economy in the cost of installation and maintenance, which could not be obtained by various municipal organizations. It was also apparent that any moneys used for this purpose would limit road construction and road maintenance by that same amount.

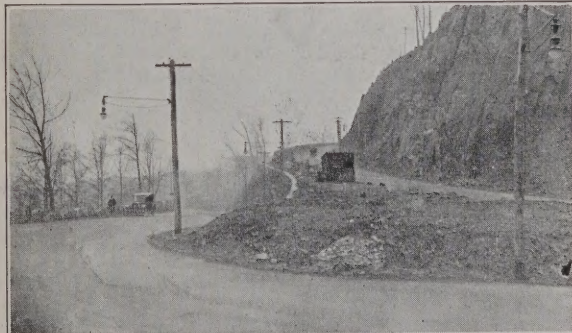
It was also determined that with all the agitation and legal action against billboard advertising along the high-

ways, that this type of advertising was developing an ever increasing rate and unlike any other type of advertising, was not being "harnessed" for some public service.

The Highway Commission believes that by offering to national and local advertisers the privilege of advertising space on highway lighthouses, which shall be located along the roadside, it will accomplish a three-fold result:

1. Secure for the public an illuminated safety system of a character and scope which could not be financed by the State at the present time with the option of taking over this system and removing the advertising at the pleasure of the State.
2. Divert advertising appropriations to this public service which otherwise would be applied to the construction of additional billboards.
3. Govern the nature, character and size of the advertising appearing along the highways so that its subject matter will not be objectionable, its design will be pleasing, and its size will be unobtrusive.

F. The Highway Commission has for that reason contracted with the American Gas Accumulator Company of Elizabeth, New Jersey, and its subsidiary, the Highway Lighthouse Company, for the purpose of safeguarding the primary road system at no cost to the State, and at the



"Blasted out of the solid rock"—that's how they did the grading going down to the ferry. The approach and the loop, just above the ferry.

The Highwayman

same time indicating on the side of highway lighthouses, the route number by an illuminated figure, and mileage and directional information.

Highway Lighthouses are being installed by the Highway Lighthouse Company at locations designated by the Commission, as rapidly as possible and have already proven their effectiveness in avoiding accidents. Since the installation of these lighthouses at a large number of the most dangerous points on our State roads, we have not a record of an accident resulting in deaths or injuries at any of these locations. While a continuation of this perfect record cannot be hoped for, there is no doubt in the opinion of the Highway Department that a State wide installation of highway lighthouses will result in a very decided reduction in the loss of lives and property.

The State is obligated to furnish its available police protection for the safe-guarding of these lighthouses. It is the desire of the Commission that any occasional vandalism or abuse be promptly reported to the State Constabulary and this office.

Extracts from the Report of the Committee on Standards of the American Association of State Highway Officials Convention, Washington, D. C. December 13-17, 1920

Having in mind the necessity for an early adoption by the Associations of standard colors for highway warning signs and devices, the Committee submits the following color scheme as a tentative standard for such studies as may be necessary during the coming year.

RED: Indicating first degree danger to be used only at railroad crossings, dead end of roads, or lift bridges. All traffic to stop and proceed only when nature of passing the danger or of overcoming it has been ascertained.

YELLOW: indicating second degree danger, at curves and grades. Yellow would indicate a danger where the driver must slow down and proceed with caution.

GREEN: indicating moving or traffic danger only and to be used at road intersections.

WHITE: indicating a clear roadway.

Precautionary Signs Maliciously Damaged

We have been informed that Lighthouse No. 8045 on Route No. 10, east of the Saddle River Bridge, had been damaged by someone with evident malicious purpose, as the lens had been stoned until it was broken, in spite of the fact that extra-heavy grid was placed over the lens in the hope that it would put a stop to such damage. It has been a common nuisance to the Department and other persons who erect signs for the benefit of the traveling public to have these signs damaged or broken up by people who use them as targets to practice on, by boys who do it for unaccountable reasons and by others for one reason or another, and who have no conception of the seriousness of their offense.

In order to stop this practice the State Police have been requested to be on the look-out for violators of the law who damage such property. The following letter was addressed to Col. H. Norman Schwarzkopf, Superintendent of State Police:

Col. H. Norman Schwarzkopf,
Supt. of State Police,
State House, Trenton, N. J.

Dear Col. Schwarzkopf:

The State Highway Commission has an agreement with the American Gas Accumulator Company providing that the Company will erect cautionary signs, also known as highway lighthouses, at dangerous points throughout the

State. This is done by the Company at no expense to the State Highway Commission due to the advertising which is sold by the company.

We have received reports of one light-house in particular located on Route No. 10, east of Saddle River Bridge, known as No. 8045, which number is found on one side of the light-house. An investigation made by the Company shows that the lens in this light-house has been stoned until it was broken, although the lens are protected to some extent.

It is understood that this light-house is in the center of a foreign colony and your co-operation is requested in order to prevent a repetition of such an occurrence at this particular place and also to protect the light-houses in other sections of the State from similar abuse.

We will appreciate your co-operation in this connection.

Very truly yours,

T. J. WASSER,
State Highway Engineer.



The Elimination of Grading Crossings

(Continued from page 7)

deavor to secure the fundamental facts entering into decisions of said officials, thereby assisting in the public work in which we are all interested.

H. C. SHINN,
Engineer of Special Assg.

Grade-Crossing Elimination

At the last annual meeting of the American Association of State Highway Officials, Neb., A. R. Hirst, State Highway Engineer of Wisconsin, read a very interesting paper on the subject "Safety and Beauty on Road Design and Construction." From this paper we quote the following bearing on the subject of railroad grade-crossing elimination:

After the curves and narrow surfacing comes the next most prevalent cause of highway accidents—the railway grade-crossing. The only safe grade-crossing is one which has been eliminated. Many accidents testify that all forms of so-called crossing protection fall down, even flagmen and gates. In planning new main highways every possible effort should be made to secure the elimination of all grade-crossings. Much can be done usually in re-locating the highways so as to avoid crossing the railways at all. Where two crossings with the same railway lie within five miles of each other, it will usually be cheaper to buy a new right of way on one side of the track and grade and drain it, than to separate the two crossings. If, however, there is something which must be met on the opposite side of the track, such as a village or city, which it is necessary to accommodate, this course may not be feasible, although quite usually between the two crossings some point can be found where a separation can be made accommodating traffic to and from the city or village in question, while the main line of traffic is left free.

Each case must be decided upon its merits, but both undergrade and overgrade crossings have disadvantages in alignment, and the best solution in four cases out of five, where the crossings are not too far apart, is to relocate alongside the track. Where a highway must cross a railway an overhead is usually superior to an undergrade crossing for several reasons, and is usually less expensive.

Up to recent years about two out of three grade separations built by the railroads have, in reality, been more dangerous to highway traffic than the grade-crossings they replaced, because the railroads paid no attention to the matter of highway alignment, and in almost every case used crossings perpendicular to their tracks with too sharp and sometimes blind approach curves. Such crossings are seldom, if ever, satisfactory where the highway is in general paralleling the railroad as many main highways naturally do, and when skew crossings have to be built, the decision almost inevitably falls upon relocating the highway.

April 12, 1922.

The Engineers

*Into the wastes of the desert,
Into the mighty hills,
Unheralded, lonely, courageous,
Dauntless to work their wills,
They fare them forth in the dawning
In the light of the flaming sun,
And weary they sink to slumber
When their day of toil is done.*

*They are not blind to the glories
That all about them gleam,
The sunset, the moonlit mountains,
The fish that leaps in the stream.
Nay, rather they see a vision,
In the burning desert sands,
Of cities rising to splendor,
Where the desolate cactus stands.*

*They dream of busy cities
And homes for their fellow-men,
Of laughter and tears and children—
And they rise to work again.
They tunnel the depths of the mountains,
They wade through the stinking bog,
They freeze in the icy winter,
And toil in the heat and the fog.*

*I think, when the mountains are crumpled,
And the ray of the last, red sun
Looks down on ruined nations,
And the glories of earth are done—
I think, in the hush of the silence,
When the cycles of life are run,
There shall come to the men who have labored
The sound of a voice: "Well done!"*

—HERBERT EDWARD MIEROW.

The author of the above poem was a brother to the late Frederick C. Mierow, who was employed as an Assistant

Engineer by the Department, and was well-known and liked by men of the Central Division and the Right of Way Division. Mr. Fred Mierow spent a great deal of his engineering life in work in the West, meeting conditions of the Field Engineer from which we imagine his brother has gained his idea of the "Engineer." Mr. Herbert Mierow is now taking a post-graduate course in the Graduate College at Princeton University. He has spent sometime as Assistant Professor in the Department of Classics, Colorado College, Colorado Springs, Colorado. There are few writers who see the romance and serious purpose in engineering life, THE HIGHWAYMAN wishes Mr. Mierow further success in his literary efforts.



Sharp Turns

BY JAMES W. BROOKS

From the Highway News Digest

More rigid specifications for public service would exclude a lot of faulty human material.

It's a short road—very short—that has no political turn.

One of life's riddles is why the road critic who doesn't know what he is talking about is so anxious to tell everybody.

Waiting for the sun to make roads passable after every rain, when good engineering will do it once and for all, is another fool occupation.

Good roads pay in bad weather, while bad roads waste, even in good weather.

The average man who opposes an increase in taxes to decrease waste on roads has a one-track mind—and the switch is thrown on that most of the time.

Less mileage and more wear leads to more mileage in the long run, since roads that are built right stay right.



In front of Seaview Golf Club, near Atlantic City, (Route 4)

Warrenite—Bitulithic Pavements Have Stood Up Under Heavy Traffic For 15 Years

The test of the paving is in the riding—and the cost of upkeep.

Upon either of these points we invite your critical investigation.

Some of the oldest paved roads in New Jersey were laid under the Warren patents.

Many of these have been in constant use under heavy traffic for fifteen years. They are still in excellent condition.

"The Best Road You Can Buy Is the Cheapest in the End."

Warren Bros. Company

District Office 50 Church Street, New York City, N. Y.

The Highwayman



IN USE SINCE 1889

Next Time You Have Cement Trouble Get Wise to "Dragon"

Not that we make all the good cement in the world—we don't!

But what we do make is good. It's absolutely dependable.

And along with its dependable goodness, there is our dependable service.

We make a point of *shipping promptly*.

That's why so many contractors who are old hands at the game have turned to "Dragon"—and stick to it.

"For Cement you can depend on—use Dragon"

Lawrence Cement Co.

PHILADELPHIA

302 Broadway, NEW YORK

Concrete Roads Add Years to Your Car's Life

Dust, mud and splatter, the rack and strain on the mechanism from bad roads, all cause rapid depreciation from the day you start driving.

Concrete hard-surfaced roads are clean, dustless, even, firm and skid-proof in all kinds of weather. They add years to your car's life—help to keep it at top value for service, exchange or sale.

Our Booklet R-3 tells other interesting things about Concrete Roads. Write for your copy.



PORTLAND CEMENT ASSOCIATION

347 Madison Avenue, New York

A National Organization to Improve and Extend the Uses of Concrete

Offices in 23 Other Cities

GLUTRIN

Four Reasons Why All Gravel Roads Should Be Treated With Glutrin

First: Glutrinized gravel roads are hard all the year round.

Secoend: Glutrinized roads shed water—and for that reason they do not rut up during the winter and Spring.

Third: Glutrin is the best binder yet discovered for gravel stone, sand-clay, or slag or earth roads.

And finally: Glutrin is not only the best binder, but by far the most economical.

What Local Authorities Think of Glutrin Road Binder:

Taken from the Daily Pioneer of Bridgeton, N. J., Tuesday, February 14, 1922

"SHOWS VALUE"

"Last fall the state highway department caused west Commerce street to be flushed with glutrin, an oil-like preparation which has for its object the laying of the dust and preventing the gravel on the roads to be cut up with the traffic. The glutrin application also has had the effect of giving the street a surface which turned

much of the water, and the results show a very much improved condition this winter. While most of the gravel streets are soft with mud, west Commerce street is comparatively firm and free from mud, and much smoother in consequence. The experiment would seem to indicate that the glutrin application greatly improves dirt roads."

Glutrin has been manufactured by us in our own plants for over 15 years. We have our own tank car line in which to deliver the product. The material used in New Jersey was applied by Mr. M. R. Young, Trenton, N. J., with pressure distributors especially built to handle this product.

Send us your name, and let us put you next to Glutrin!

Robeson Process Company
Fifth Avenue Building, 200 Fifth Avenue, New York

The Highwayman



Springfield avenue, Summit N. J., constructed with "Tarvia-x" in 1915

As Good As New After Seven Years Of Service

After seven years of heavy traffic, the Tarvia Penetration pavement on Springfield Avenue, Summit, is today as smooth and firm and trafficproof as when it was first constructed. This road has come unscathed through the freezes of seven winters, the thaws of seven springs, the grind of seven years' continuous usage.

And hundreds of other Tarvia Roads in New Jersey are giving the same economical service. They are always open for traffic—always free from dust and mud.

Let the experienced road engineers of our Special Service Department tell you how you

can maintain them at so small an expense that the saving in upkeep alone, over a few years' time, will offset the entire original outlay for construction.

Tarvia is made in different grades for all road requirements—new construction, maintenance, and repairs. It can solve the problem of low-cost, low upkeep, good roads for *your* community, just as it has for thousands of other communities throughout the country.

Please address your inquiry to SPECIAL SERVICE DEPARTMENT, through our nearest representative.

Tarvia
For Road Construction
Repair and Maintenance

No highway engineer or road official should be without a copy of our latest manual, "Road Maintenance with Tarvia". Our nearest office will send free copy on request.

C. C. RANDOLPH
Telephone 2466, PLAINFIELD, N. J.
ASHLEY BURNER
Telephone 2232, PLAINFIELD, N. J.

The *Barrett* Company
40 RECTOR ST., NEW YORK CITY

C. A. BAKER, JR.
Telephone 323, CLOSTER, N. J.
H. M. SMITH
Telephone 96M, RIVERTON, N. J.



(Courtesy Portland Cement Association)

“Vulcanite”

A single word---But it Speaks Volumes!

It speaks volumes, because of the things which are back of it.

First, Portland Cement, than which there is none better made anywhere in the world.

Second: a reputation for *prompt service*—a reputation which we jealously guard.

Third: our giant plant at Vulcanite (Warren County) with its capacity of 2,000,000 tons a year.

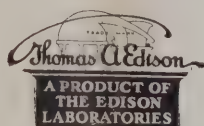
“Let’s get together and talk Cement”

VULCANITE PORTLAND CEMENT CO.

PHILADELPHIA

BOSTON

NEW YORK



Next Time You’re Held Up For Cement
Remember That

Edison Can Ship 150 Cars A Day

There are several things which may hold you up on your road work.

But if you are held up for *cement*—it is your own fault. Edison—with trackage and packing houses so arranged that twenty-five cars can be loaded at one time—is equipped to ship *one hundred and fifty cars* each working day! Furthermore, we are producing cement *right here in New Jersey*.

So remember our policy—

“Edison service—Cement when you want it!”

EDISON PORTLAND CEMENT CO.

NEW YORK

BOSTON

PHILADELPHIA

PLANT: NEW VILLAGE, N. J.

ALONG THE ROAD



**Safety Does
Come First**

**Danger
Ahead**

*The Old Mill (Route 13, Kingston, N. J.)
When you're out driving and come to a beauty spot such
as this—"stop—look—and listen!"*

The statistics of automobile accidents continue to pile up alarmingly.

But every careful investigation goes to prove that the great majority of them could have been prevented. A certain number are real *accidents*—they could not have been foreseen or guarded against.

Still more are due absolutely to darn-fool reckless driving.

But the biggest class of all are due to ignorant carelessness in not knowing, or using, SIGNALS.

The signals shown below are coming into nation-wide use. They are simple, easily memorized, and effective.

You owe it, not only to yourself, but to your fellow-motorists, to learn these signals—AND TO USE THEM.

"A word to the wise"—should save many repair bills and funeral expenses.



Boy:—"Dad, what do you call a man who drives a car?"

Pop:—"That all depends on how close he comes to hitting me!"



Talk is not cheap to the taxpayer who permits his acts in road matter to be governed by the wrong kind.

Speaking of white mule, two rustic sports were uncertainly flivvering their way home from the county seat.

"Bill," said Henry, "I wancha to be very careful. Fir'-thing y'know, you'll have us in a ditch."

"Me," said Bill in astonishment. "Why, I thought *you* was drivin'."—Exchange.



In the old days when a man wanted to commit suicide, he blew out the gas. Now he steps on it.



He's Not the Only One

A fellow who hailed from Oshkosh,

Had about as much brains as a squash,

All corners he'd round with two wheels off the ground,

And now he's an angel, b'gosh!



The Passenger Critic

There is one pest I fain would swat,
Lambast and skin alive;

It is the cuss who sits in front,
And tells me how to drive.



Memorize these signals NOW! They may save your life—or some one's else—some day.

Road Tips



MONTHLY BULLETIN OF DETOURS

Adopted by the New Jersey State Highway Commission

Corrected to May 13, 1922

All detours posted with signs and blazed with "Arrows"

(Color signals to right will be used along all State roads as soon as possible.)

ROUTE NO. 1—Greenwood Avenue near the City of Trenton.

Under construction. Traffic will detour from Greenwood and Olden Avenues over Olden Avenue to Hamilton Avenue and over Hamilton Avenue to Nottingham Way and Mercerville to Route No. 1.

ROUTE NO. 3—Camden Berlin.

Traffic to the shore from Market Street Ferry, Camden, will go out Federal Street to Haddon Avenue to Mt. Ephraim Avenue, thence over Mt. Ephraim Avenue through Mt. Ephraim to Chew's Landing, Blackwood and Clementon to Berlin.

Traffic from the shore will leave the White Horse Pike at Berlin going through Gibbsboro, Haddonfield, Ellisburg and over the Marlton Pike to Federal Street, Camden, thence over Federal Street to the Market Street Ferry.

ROUTE NO. 4—Eatontown-Long Branch Road and Allenhurst.

Detour at Eatontown over South Street through Oakhurst to Deer Beach.

ROUTE NO. 4—Under construction through Avon.

Traffic will be carried through construction.

ROUTE NO. 4—Sea Girt Avenue.

Short detour over local streets.

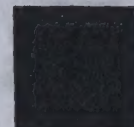
ROUTE NO. 4—Laurelton-Lakewood.

Traffic will go from Laurelton through Cedar Bridge and Silverton to Toms River.

ROUTE NO. 4—Point Pleasant.

There will be a short detour over local streets.

(Continued on Reverse)



This color (blue) on square or signs indicates that road is running North and South



Red shows that it has East and West

While yellow tells you that it takes a diagonal course south-east or north-west



And brown indicates that it takes a diagonal course north-east or south-west



For You— "The Highwayman"

Do you use roads? Do you want to know where they are being built, and what detours to take, each month?

Then send, TODAY, to
The Highwayman
New Jersey State Highway Department
Trenton, N. J.

Just ask to be put on The Highwayman's list. A postal will do.

MONTHLY BULLETIN OF DETOURS

(Continued)

ROUTE NO. 5, Section 5—Convent Station to Madison.

Detour beginning at the corner of South Street and Madison Avenue, in Morristown, and running from thence on South Street in a southerly direction to the Morristown-Green Village Road; from thence still southerly on the Morristown-Green Village Road to Loantaka Way; thence easterly on Loantaka Way to Woodlawn Road; thence still easterly on Woodlawn Road to the Madison-Green Village Road; thence northeasterly on the Madison-Green Village Road to Kings Road; thence southeasterly on Kings Road to Waverly Place; thence easterly on Waverly Place to Route No. 5 in Madison.

ROUTE NO. 6—Mullica Hill-Shirley.

Detour via Woodstown, Alloway and Aldine to Bridgeton.

ROUTE NO. 6—Woodstown-Salem.

Detour via Woodstown and Sharptown to Salem.

ROUTE NO. 6—Salem-Quinton-Bridgeton.

Detour from Salem through Hancock's Bridge, Harmeraville, Canton and Roadstown to Bridgeton.

ROUTE NO. 9—Perryville-West Portal: Hunterdon County.

Detour via Vinton, Glen Gardner, Hampton, Asbury, West Portal. 1921 work.

ROUTE NO. 9—Bound Brook-Somerville.

Detour over the old turnpike between the points mentioned.

ROUTE NO. 12—Phillipsburg-Port Colden: Warren County.

Detour via Phillipsburg, Bloomsbury, West Portal, Asbury, Washington and Port Colden. 1921 work.

ROUTE NO. 12—Denville-Parsippany-Pine Brook: Morris County.

Detour via Denville, Tabor, Morris Plains, and Littleton to Cobb's Corner, Parsippany and thence over Route No. 12 to Pine Brook and Paterson. 1921 work.

ROUTE NO. 13—Which is the Lincoln Highway.

Is under repair between Lawrenceville and Princeton. Traffic is advised to detour via Washington Street, Princeton, across Carnegie Lake and the canal to the Brunswick Pike at Penn's Neck, turning south over the Brunswick Pike to the City of Trenton. North-bound traffic will take the reverse of this route which is out Brunswick Avenue, Trenton, continuing out the Brunswick Pike to Penn's Neck just east of Princeton, where traffic will turn to the west going over the canal and Carnegie Lake through Washington Street to Nassau Street, Princeton, and turning north on the Lincoln Highway and going to New Brunswick.

ROUTE NO. 14—Cape May Court House-Swainton.

Detour from Swainton through Avalon, Peermont and Stone Harbor to Cape May Court House.

ROUTE NO. 15—Bridgeton-Millville.

Detour from Bridgeton via Carmel to Millville.

To the Traveling Public:—

The following information is compiled for the convenience of the traveling public ON STATE HIGHWAYS ONLY. Directions are given to more conveniently avoid those sections of Routes that are now under construction. Kindly NOTE and OBEY all detour signs and warnings. These are placed for your guidance and protection, and to enable the State Highway Commission to carry out its 1922 Construction Program without interruption.

N. J. STATE HIGHWAY COMMISSION.

(This information was prepared in March, 1922, and the Construction Program is subject to change. Monthly detour bulletins will be issued giving such changes.)

Note: The traveler will find poles banded along each route to correspond to the colors indicating the direction of the routes.

DETOUR—FOLLOW THE ARROW.

ROUTE NO. 1.

Jersey City to Trenton, 45 miles, via Newark, Elizabeth, Rahway, Metuchen, New Brunswick and Hightstown. Under construction near Elizabeth. Obey all detour signs. Under construction between Metuchen and New Brunswick. One-way traffic will be carried through the construction work. Route No. 1 is the Lincoln Highway between Jersey City and New Brunswick.

ROUTE NO. 2.

Trenton to Camden, 24.5 miles, via Bordentown, Fieldsboro, Ewing and Burlington. Under construction South Broad Street, Trenton, and White Horse near Trenton. One-way traffic will be carried through construction.

ROUTE NO. 3.

Camden to Absecon, 47.8 miles, via Berlin and Hammonton. White Horse Pike from Camden to Berlin under construction. Detour over Blackwood Pike through Mt. Ephraim, Blackwood, Clementon, to Berlin. Obey all detour signs.

ROUTE NO. 4.

Rahway to Absecon, 111.5 miles, via Perth Amboy, Keyport, Middletown, Red Bank, Long Branch, Asbury Park, Point Pleasant, Lakewood, Toms River, Tuckerton and New Gretna.

Under construction through Red Bank. Detour over local streets following signs. Under construction from Easttown, Long Branch Road through West Long Branch and Herwood Avenue to Asbury Park. Follow signs. Under construction in Avon-by-the-Sea and Sea Girt. Also in Point Pleasant and between Lakewood and Lakewood. At Lakewood detour through Ellverton for Toms River. Under construction short sections in Toms River, Barnegat and Tuckerton. One-way traffic will be carried through construction. Under construction between Mullica River and Smithville. Follow present road through Fort Republic; new construction over new alignment. (Obey all detour signs.)

ROUTE NO. 5.

Newark to Delaware Bridge at Delaware, 63.1 miles, via Marlinton, Dover, Matamoras, Budd Lake, Hackettstown and Butterfield. Under construction in Madison, Morristown and Mine Hill. One-way traffic will be carried through construction. Under construction between Hackettstown and Denville (Great Meadows). Obey all detour signs.

ROUTE NO. 6.

Camden to Salem, 38.7 miles, via Woodbury, Mullica Hill and Woodstown. Mullica Hill to Bridgeton, 28.5 miles, via Pole Tavern. Salem to Bridgeton, 18 miles, via Quakertown and Shiloh. Under construction in Woodbury. Obey all detour signs. Under construction Mullica Hill to Shirley. Use State Highway to Woodstown, and from Woodstown towards Salem follow detour signs to Alloway, thence back to Shirley and thence to Bridgeton. Traffic for Salem will go from Woodstown to Shiloh, thence over the road through Pointers to Salem. Under construction from Salem through Quakertown to Shiloh and Bridgeton. Traffic between Salem and Bridgeton will follow road via Hancock's Bridge, Camden, Roadstown and Bridgeton. Ford Street, Bridgeton, under construction, follow signs. (Obey all detour signs.)

ROUTE NO. 7.

Hightstown to Asbury Park, 52.5 miles, via Freehold, Jerseyville and Hamilton.

ROUTE NO. 8.

Morristown to New York Line at Ulsterville, 48 miles. Under construction from Sussex to Ulsterville. Obey all detour signs.

ROUTE NO. 9.

Elizabeth to Philadelphia, 42.5 miles, via Westfield, Pinckney, Bound Brook, Somerville, White House, Clinton, West Portal and Bloombury. Under construction through Pinckney. Obey all detour signs. Under construction



MAP of STATE of NEW JERSEY Showing STATE HIGHWAY ROUTES UNDER CONSTRUCTION, DETOURS, ETC.

Together With
Main Automobile
Routes

1922

from Bound Brook through Somerville to North Branch. Obey all detour signs. Under construction from Perryville (West of Clinton) to West Portal. Traffic for Philadelphia detour at Clinton via Glen Gardner, Hampton, Asbury and West Portal. Obey all detour signs. Under construction from Bloomsbury to Philadelphia. Take road via Swantonville and Straw Church. Obey all detour signs.

ROUTE NO. 10.

Peterboro to Fort Lee Ferry, 18 miles, via Dundee Lake and Hackensack. Under construction near Ridgely and Little Ferry. Obey all detour signs.

ROUTE NO. 11.

Newark to Paterson, 11 miles, via Belleville, Nutley and Passaic. Under construction Main Street, Passaic. Obey all detour signs.

ROUTE NO. 12.

Peterboro to Philadelphia, 49.9 miles, via Little Falls, Passaic Brook, Parsippany, Denville, thence over Route No. 1 to Hackettstown, thence via Washington and Broadway. Under construction Parsippany to Denville. Detour at Parsippany for Denville, thence over road to Mountain View to Denville. Under construction Port Calden to Philadelphia. Obey all detour signs.

ROUTE NO. 13.

New Brunswick to Trenton, 24.9 miles, via Kingston, Princeton and Lawrenceville. This is the Lincoln Highway between New Brunswick and Trenton.

ROUTE NO. 14.

Egg Harbor City to Cape May City, 42.5 miles, via Mays Landing, Tuckahoe and Cape May Court House. Under construction Cape May Court House to Swanton. Detour via Avalon, Fairmont and Stone Harbor. Obey all detour signs.

ROUTE NO. 15.

Bridgeton to Route No. 14 at No Grande, 42.1 miles, via Millville, Dorchester, Dennisonville, Cochen, Dins Creek and Green Creek. Under construction from Bridgeton to Millville. Detour via Carmel. Obey all detour signs.

ROUTE NO. 16.

Morristown to Princeton, 27.1 miles, via Van Dora's Mills, Bernardsville, Far Hills, Red Bank, Pinckney, Somerville, South Somerville, Belle Mead and Marlinton. Under construction from Somerville to South Somerville and from Somerville through Far Hills to Mine Hill. Traffic will be carried through construction. Under construction from Van Dora's Mills to a point near Morristown. One-way traffic will be carried through construction.

